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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,427	07/12/2002	Laurens Wolters	71358-38	2477

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EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,427

Applicant(s)

WOLTERS, LAURENS

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-6 (Group I) in the response filed 06 June 2003 is acknowledged.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 15 October 2002 has been considered by the examiner.

Claim Rejections - 35 USC § 112

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation "winding longitudinal axis" lacks antecedent basis and is vague and indefinite. It is further not clear how the "winding longitudinal axis forms an acute angle relative to the shaft longitudinal axis." Does this mean the stator is skewed?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tohiyasu (JP 4-161050) in view of either Grenzer (US 1,762,017) or Janette (US 1,467,938). Tohiyasu teaches the elements in applicant's preamble including an internal stator motor including a shaft 1 and multiple windings 3, and an external rotor 6 with permanent magnets 7. Tohiyasu differs in that the stator does not "compris[e] a plurality of plates on the shaft under sufficient compression to inhibit bending of the shaft due to external forces that would otherwise tend to cause the windings to contact the magnets."

Grenzer teaches construction of a rotor including armature laminations 2 attached by compression to a shaft 8 (Figs.1-3). A ring 9 is pressed on the shaft or rotor boss so that the laminations are compressed (p.1, lines 70-82). The shaft 8 is not bent during the compression because the contact (front) surface of pressure ring 9 is spherical or conical.

Janette teaches a fastener 9 for securing disks 7 on a shaft 3 having a keyway 4 (Fig.2). The laminations are pressed against a washer 6 and held by means of the fastener (lines 37-52). This prevents bending of the shaft (p.1, lines 53-55).

It would have been obvious to one having ordinary skill in the art to compress the stator of Tohiyasu per either Grenzer or Janette since this would have been desirable to prevent the shaft from being bent during construction of the motor.

Regarding claims 2-3, Tohiyasu teaches plural windings 3 on winding poles having "caps" (Fig.2).

6. Claims 5-6, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Tohiyasu in view of either Grenzer or Janette as applied to claim 1 above, and further in view of Neuenschwander (US 5,809,638). Neither Tohiyasu, Grenzer nor Janette teach skewing of the stator. Neuenschwander teaches a method of manufacturing laminated parts of rotor or stator cores including an assembly having a barrel 58 which when rotated, skews the conductor slot passageways of the laminate pack forming core 22 (c.6, lines 14-16). Various skew angles are possible (c.6, lines 18-42). Skewing compensates for variations in lamination thickness (c.1, line 66-c.2, line 5).

It would have been obvious to one having ordinary skill to skew the stator of Tohiyasu in view of either Grenzer or Janette per Neuenschwander since this would have compensated for variations in lamination thickness.

Regarding claim 6, skew angles in Neuenschwander are dependent upon the number of slot openings. Neuenschwander's range of angles would encompass applicant's 10 degree range.

7. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tohiyasu (JP 4-161050) in view of Sargeant (US 5,066,882). Tohiyasu teaches the elements in applicant's preamble including an internal stator motor including a shaft 1 and multiple

windings 3, and an external rotor 6 with permanent magnets 7. Tohiyasu differs in that the stator does not “compris[e] a plurality of plates on the shaft under sufficient compression to inhibit bending of the shaft due to external forces that would otherwise tend to cause the windings to contact the magnets.”

Sargeant teaches a stator core or stack assembly 2 comprising plural laminations and fastening devices including bolts 4 and tightening nuts 6 for holding the laminations together. A constant tightness, or compressive loading, is applied over stack 2 for an entire temperature range so that the difference in temperature induced expansion is reduced (c.1, lines 40-47). It would have been obvious to employ the compressed lamination assembly of Sargeant for the stator of Tohiyasu since this would reduce temperature induced expansion of the stator. Further, the combination would inherently “inhibit bending of the shaft” since there would be minimal temperature induced expansion of the stator laminations that would otherwise cause such expansion.

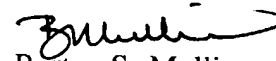
Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
June 30, 2003